



City of Tacoma
Public Works Department

October 12, 2006

Nancy L. Winters, Section Manager
Washington State Department of Ecology
Water Quality Program
P.O. Box 47600
Olympia, WA 98504

DEPARTMENT OF ECOLOGY
OCT 18 2006
WATER QUALITY PROGRAM

Dear Ms. Winters:

Enclosed you will find the changes to our 2005 Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Annual Report that we have made. These changes were finalized and included into the Annual Report pursuant to your acceptance of our revised language, per your letter dated September 29, 2006.

Sincerely,


James G. Parvey, P.E.
Science & Engineering Division Manager

Cc: Anne Van Sweringen, Ecology Water Quality Program
Bob Warren, Toxics Cleanup Program, SWRO, Ecology
Marv Coleman, Toxics Cleanup Program, SWRO, Ecology
Russ McMillian, Toxics Cleanup Program, HQ, Ecology
Kris Flint, EPA
Dana deLeon, Public Works Surface Water Section, City of Tacoma
Christy Strand, Public Works Surface Water Section, City of Tacoma

connections were eliminated and the systems were connected to the sanitary sewer. City staff also worked with the City of Fircrest to identify and resolve an illicit discharge of sewage, from a duplex located in Fircrest, to the storm sewer system discharging to Leach Creek. This cross connection had existed since the duplex was built in approximately 1980.

The following list of water quality treatment devices for treating right-of-way runoff were permitted for construction during 2005:

- Wet vault at S. Adams between S. 67th and S. 69th Street.
- Bioswale at Alaska Street and S 92nd Street.
- Wetvault at East "G" Street and E 72nd Street.
- Bioswale and Wet vault at East 32nd Street Bridge.
- Bioswale at 40th Avenue NE between Browns Point Boulevard and 33rd St NE.
- Hydrodynamic Separator and Oil Water Separator at East R Street and East 37th Street.

A "doggie daycare" had ongoing problems with animal waste being discharged to the street and then into the storm system; this problem was resolved. Please refer to Page 26 for more information about this business.

An agreement was reached with a company that had received a notice of violation. The case went before Tacoma's Hearing Examiner. As part of the agreement, the company agreed to improvements to their following operations: repair of all roll-off storage bins, maintenance of a sump pump, improvements to a berm, produce and distribute a training guide for employees and to follow a compliance schedule.

After the construction of the Washington Department of Natural Resources Middle Waterway tideflat cleanup project (adjacent to the City's Middle Waterway restoration site), stormwater runoff from 11th Street was crossing the site, creating erosion and discharging sediment into the waterway. The City addressed this issue by installing a curb at the border of the project which now prohibits the movement of water onto the site.

Stormwater Quality in Thea Foss Waterway Basin.

Pursuant to the EPA approved Foss Storm water Monitoring Sampling and Analysis Plan dated September 2001, Tacoma will complete concentration and time trend statistical evaluations of 5 years of data (2001-2006). Tacoma's future decisions for stormwater management will be based on this 5-year record.

However, Tacoma has been collecting stormwater and stormwater sediment for two decades. Tacoma believes that this historic record can provide an "estimate" of long-term trends. This "estimate" of long-term trends will not be used in making current decisions for stormwater management.

EPA and Ecology do not accept the long-term time and trend comparison of the two data sets. Ecology does acknowledge that the City's efforts to control contaminant sources to stormwater have been beneficial based on the increased level of source-tracing and other upstream source control work.

Tacoma believes that the two decades of stormwater and stormwater sediment monitoring has shown success in the City's source control program for Thea Foss Waterway. Stormwater loads based on 2001-2005 stormwater monitoring data indicate

a 40-80 percent reduction compared to monitoring data collected in the late 1980s through the 1990s. More recently, base flow and stormwater quality have improved or remained the same for the past four years under the City's NPDES monitoring program. The City has directed numerous source control efforts in this basin. The cumulative effect of these efforts has likely caused the observed improvement in stormwater quality.

The improvements in stormwater quality indicate that source control efforts in Thea Foss Basin were effective in the reduction of chemical concentrations in stormwater. Source control activities currently being implemented by the City include business inspections, response to spills and illicit discharges, street cleaning and catch basin cleaning operations, pollutant source tracing, and implementation of the City's Manual through our stormwater ordinance. The ordinance requires stormwater control systems on new and redeveloped sites and provides a mechanism for enforcement of stormwater concerns.

Reduction of contaminant loads to the Thea Foss Waterway is expected through the City's implementation of stormwater source controls, as well as through the control of other sources, many of which are outside the City's jurisdiction and must be coordinated by other federal, state, and local authorities. Reductions of air and marina pollution are expected through Ecology's Air Program and the Marina Source Control Program developed for Thea Foss Waterway. Reductions in air pollution will decrease not only the direct loads from atmospheric fallout to the surface of the waterway, but will also decrease the pollutant loads washed off upland surfaces and entrained in stormwater runoff. The marina improvements implemented by Foss Waterway Marina, Foss Landing Marina, Johnny's Marina, and Delin Docks (formerly known as City Marina, including installation of facility improvements, will undoubtedly translate into reduced source loads for marinas. Upland and in-water remedial actions implemented by Ecology and the Utilities in 2003 and 2004 were directed at controlling tar seeps in the head of the waterway; the effectiveness of these actions will be verified through long-term monitoring.

Specific chemicals of concern for the Thea Foss Basin are mercury, PAHs, phthalates, pesticides/PCBs and TPH.

Mercury. Total mercury was detected in stormwater at the highest frequencies (28 and 26 percent, respectively) at Outfalls 230 and 235. The highest concentrations of mercury were detected in stormwater sediments in Basins 237A, 243 and 230. The highest concentration of mercury detected in 2005 was FD-2A sediment trap in Outfall 237A Basin. Overall, the highest concentration of mercury detected remains FD-23 sediment trap, Outfall 243 Basin in 2004.

PAHs. Baseflow concentrations are consistently lower than storm flow concentrations. In addition to lower mean concentrations, baseflow samples are typically characterized by reduced maximum values and less frequent detection. Sporadically high concentrations of LPAHs have been reported in Outfall 237A base flow. This outfall includes some of the highest measured base flow concentrations of naphthalene, phenanthrene, and LPAHs. The median and average concentrations of a few LPAHs and all HPAHs have been reported in Outfall 254 baseflow. This outfall includes some of the highest measured base flow concentrations of anthracene, phenanthrene, and HPAHs.

Comparatively higher median and/or maximum concentrations of PAHs in stormwater were generally observed in Outfalls 230, 235, 237A, and 254. Pyrene concentrations at

Outfall 254 were found to be significantly greater than three other outfall's concentrations. In the outfall sediment trap sediments, the highest concentrations of PAHs were found at FD2, Outfall 237A. After FD2, Outfall 237A, the next highest PAH concentrations in the outfall sediment traps were found at Outfall 230 and the 2005 sample, FD6, Outfall 235. Outfall 254 does not have a sediment trap because of tidal influences.

Phthalates. In whole-water over the four years, the highest concentrations of BEHP were found in Outfalls 230 and 235. Concentrations in stormwater at Outfall 235 were significantly greater than four outfalls in the basin. In fact, BEHP concentrations appear to be increasing in Outfall 235, a statistically significant trend. However, continued monitoring is needed to replicate this "trend" as statistically significant. This will be done concurrent with source tracing up in the basin in attempt to identify the source of any elevated concentrations. The highest concentrations of BEHP in sediment traps were found in Outfalls 230, 243 and 245.

Pesticides and PCBs. In whole water analysis, pesticides and PCBs are generally not detected at the reporting limits and thus were not analyzed. The highest concentrations of DDT and PCBs were found in stormwater sediments in Basin 230. Data from 2005 was not available for Outfall 243 to determine if PCBs are still present at this location.

TPH. In the sediment trap sediments, the highest concentrations of heavy oil and diesel were found at MH390 in Basin 245 (2001-2004 only), FD-3A in Basin 230 (heavy oil only) and FD-23 in Basin 243 (diesel only). The possible sources of heavy oil and diesel in Basins 245 and 243 could be truck traffic, the old oil line, USTs (Basins 245 and 243), and/or old gas lines. TPH concentrations in Basin 245 were the lowest concentrations of all the 2005 locations. Possibly, this is the direct result of the closing of a major trucking business in the basin and the continuing Ecology-led source control activities.

With continued monitoring and evaluation of source controls, the City believes further improvements in stormwater quality will be realized. Source controls implemented in 2003-2005 include the following:

- Removal of the coal tar seepage from DA1-line in Outfall 237A.
- Remediation of the source(s) of the "oil-snakes" to storm drain line to Outfall 245 and replacing the storm drain with a sealed line thus removing the "oil-snakes" conduit.
- Support for Ecology in their efforts to locate and remediate unknown UST in Basin 245.
- With construction on SR-16 and I-5, stormwater runoff is now and will be treated before discharged into the storm drains. Construction is to be completed in 2008.
- Monitoring and control of a PAH source in 237B including cleaning the storm line.
- Source tracing in Basin 230, FD3A line and then TVing and cleaning the storm line. Identification of a capital improvement project for storm line replacement in this area.
- Location and repair of collapsed storm and sanitary lines in Basin 235.
- GIS mapped SR 509 and railroad yard storm drain lines.

The City recommends the following source control activities for 2006 and beyond:

Priority 1 tasks are:

- Continue Outfall 254 PAHs source tracing.
- Continue Outfall 230 mercury and PCBs/DDT source tracing in Branch FD-3A and FD18 (PAHs and BEHP are also monitored).
- Continue Outfall 245 monitoring for "oil snakes" downstream of the new stormwater line on South 19th Street.
- Outfall 245 East "D" Street and E. 19th investigation by Ecology.
- Hiring one source control specialist in 2006.
- Outfalls 245 and 248 BEHP investigation with Ecology.
- Outfall 235 BEHP and PAHs source tracing using upline sediment traps (2006).

Other Priority 1 tasks include:

- Review of the 2005-2006 stormwater sediment data in summer 2006 to confirm existing conditions in the basin.
- Implementing the City's Surface Water Management Manual.
- Inspect 200-300 businesses per year in Tacoma and document the inspections using the business inspections database
- Respond and track all complaints/spills in complaints database.
- Continue NPDES Stormwater Monitoring Year 5.
- Continue phthalate source investigations.
- Participation in the WSDOT/UW Stormwater Technology Study.
- Participation in Ecology's TRC for Stormwater Treatment Technologies.
- Participation in Ecology's Industrial Stormwater General Permit External Advisory Committee.

Priority 2 tasks are:

- Outfall 237A mercury and PAHs in the area draining to FD13 and FD13A.
- Outfall 237A PAHs in the area draining to FD10.
- Outfall 237A mercury, phthalates and PCBs in the area draining to FD10C.
- Outfall 230 BEHP investigation in the area draining to FD3B (including PAHs).

Priority 3 tasks are:

- Outfall 237A mercury and PCBs in the area draining to FD2A.
- Outfall 237B PCBs source tracing in area draining to FD35 and FD34.
- Outfall 243 mercury and phthalate source tracing investigations if needed.
- Outfall 235 continue support of Ecology lead investigations.

Priority 1 tasks will be initiated in spring 2006, followed by Priority 2 and then Priority 3. Completion of each task is dependent on what is found during the investigations and staff availability.

8. Status of Watershed-wide Coordination and Activities which the Permittee has Undertaken Individually or Jointly as Part of the Special Condition S7B7.

Please refer to Section S7B7 for information on watershed-wide coordination and activities.